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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/505,343	08/23/2004	Walter Otto Reppele	752-06US	5920
23716 7590 07/15/2010 ANTHONY ASQUITH 28-461 COLUMBIA STREET WEST WATERLOO, ON N2T 2P5 CANADA				
EXAMINER WEINSTEIN, LEONARD J				
ART UNIT 3746		PAPER NUMBER		
MAIL DATE 07/15/2010		DELIVERY MODE PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/505,343

**Applicant(s)**

REPPLE ET AL.

**Examiner**

LEONARD J. WEINSTEIN

**Art Unit**

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 December 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI/22)
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date: \_\_\_\_\_

**DETAILED ACTION**

1. This office action is in response to the amendment of December 1, 2009.
2. After review in preparation for allowing the claims the instant application, several issues warranting rejection of the instant claims have come to the attention of the examiner. The finality of the rejection of the last Office action therefore is withdrawn.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1, and by dependency claims 2, 5, and 8-30, claim 3, and by dependency claim 4, claim 6, and by dependency claim 7, and claim 20, and by dependency claim 21, are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. As discussed below the claims include limitations that set forth different combinations of distinct and separate elements that accomplish specific functions whereas the specification enables limitations directed toward single elements that have multiple functions.

- a. Claim 1 contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 1 claims "a radiator-port-closer," and "a rad-port-thermal-unit" comprising "a coolant temperature sensor," "a fixed-element," "a thermally-movable element," and "a rad-port-driver." Also claimed are the elements of "a set of swirl vanes," "a vane-orientation-guide," and "a swirl-thermal-unit" comprising "a coolant temperature sensor," "a fixed-element," "a thermally-movable element," and "a swirl-vane-driver." There is no embodiment disclosed that comprises separate and distinct components directed to each of the elements claimed. There is no embodiment that has a separate (1) sensor, (2) fixed element, (3) thermally movable element, and (4) driver for each of a rad-port-thermal unit and a swirl-vane-thermal unit.

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- i. In the embodiment of figures 1-4c the swirl vanes close the radiator port, the bulb of the thermostat (thermostat being a sensor and the bulb being a thermally movable element) moves a stem (swirl vane driver) within a bore (fixed element), and the movement of the stem is transmitted to the vane orientation guide to rotate the vanes to control the flow and direction of fluid introduced to an impeller and open and close the radiator port. The swirl vanes are the radiator-port-closer so therefore the embodiment does not teach separate thermal units for a radiator-port-closer and a set of swirl vanes.
- ii. In the embodiment of figures 5a-5c the "swirl vane" is the radiator-port closer. A sensor (sensor) sends signals to an electric-motor/gearbox to rotate a shaft (driver) and the shaft turns a vane so the single vane can

open and close ports in communication with a heater and a radiator. It is unclear what would be considered the thermally movable element. It is clear that there is no separate thermal unit for each of a radiator-port-closer and "set of swirl vanes" as the function to be performed by each is accomplished by the single structure defining the "set of swirl vanes."

iii. The only embodiments that have a radiator-port-closer separate from a set of swirl vanes are shown in figures 9 and 11. Unlike the embodiments of figures 1-4e and figures 5a-5c, the swirl vanes are and the radiator-port-closer are separate elements that perform the functions of opening and closing a radiator port and directing fluid to an impeller respectively.

(1) In the embodiment of figure 9 the set of swirl vanes are separate from the radiator-port-closer but there is only one sensor (thermostat), thermally movable member (bulb of thermostat), fixed element (casing defining the space in which a slider slides) and a driver (slide). Thus a rad-port-thermal-unit that is separate and distinct (as claimed) from a swirl-vane-thermal-unit is not provided because the elements that drive the swirl vanes are responsible for the operation of the radiator-port-closer.

(2) The embodiment of figure 11 operates in the same manner as the embodiment of figure 9 with respect to the limitations at issue.

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None of the embodiments teach separate and distinct elements as those claimed and in fact the objective of the invention is to use fewer components than the prior art which are in turn mechanically linked in order to perform multiple functions. The instant disclosure actually teaches away from having separate thermal units and, with respect to the embodiments of figures 1-4e and figures 5a-5c, swirl vanes that do not also serve as radiator-port-closers. App. 10/505343, Paragraphs [0014], [0030], [0035], and [0036].

b. Claims 1 and 20 contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claims contain limitations directed toward having two sensors. As discussed above no single detailed embodiment teaches having separate thermal units and therefore does not teach separate sensors.

i. The disclosure in paragraphs [0085]-[0088] discloses having multiple sensors however there is no detail on how these sensors would be incorporated with a thermally-movable element, fixed-element, and driver of a thermal unit. One of ordinary skill in the art would not be able to build the invention so that a driver could convert the movement of a thermally movable element.

ii. The embodiment of figure 5a may be applicable because that embodiment uses a motor driven gearbox responsive to a sensor so it would be possible to make it responsive to multiple sensors. However this

would not be commensurate in scope of the claim 1 because the claim recites limitations directed toward having separate thermally-movable elements and drivers. If the embodiment of figure 5a was modified to make a motor responsive to multiple sensors it would still only have one thermally responsive element, one driver, and a "set of swirl vanes" that were functionally a radiator-port-closer for that embodiment.

c. Claim 3 contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claim combines the thermally movable elements of the rad-port-thermal-unit and the swirl-vane-thermal-unit however still claims separate drivers for each. As discussed above no embodiment discloses separate thermal units and therefore no embodiment has separate drivers.

d. Claim 6 contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claim combines the radiator-port and the set of swirl-vanes however still claims separate drivers for separate thermal units. As discussed above no embodiment discloses separate thermal units and therefore no embodiment has separate drivers.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 2, 10, and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claims 2 and 30 are indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention because the limitations directed toward portions of the set of swirl-vanes, radiator-port, and radiator-port-closer, being in a pump chamber, conflict with the limitations of claim 1 which recites that all of these elements are inside the pump chamber. The limitations of claim 1 suggest that the elements are entirely inside of a pump chamber and claims 2 and 30 suggest only portions of the elements are inside the pump chamber. The examiner notes that if the independent claim said a portion of the elements were disposed in the pump chamber then claims 2 and 30 would not be indefinite but the claims effectively take portions of elements out of the pump chamber.

8. Claim 10 is indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention because the limitation of swirl vanes that "close off the radiator port" make it unclear as to what the radiator-port-closer is comprised of. It is unclear whether the swirl vanes function as the radiator-port-closer or the limitations set forth an ancillary feature of the previously claimed vanes.

#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEONARD J. WEINSTEIN whose telephone number is



(571)272-9961. The examiner can normally be reached on Monday - Thursday 7:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on (571) 272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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